STATE
OF
INDIANA

TRAFFIC RECORDS

"The Evolution"

Indiana Criminal Justice Institute
Traffic Safety Division

Governor's Council on Impaired and Dangerous Driving

Version III
June 16, 2008

Governor's Council on Impaired & Dangerous Driving

a division of the INDIANA CRIMINAL JUSTICE INSTITUTE

Vision Statement

"To provide an environment that significantly reduces death, injury, and economic costs on Indiana highways that will result in safer roads for all the citizens and visitors to the State."

Mission Statement

"To create an integrated traffic records system through a collaboration of all local, state, and federal entities responsible for motor vehicle safety."

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Traffic Records Assessment
"The Beginning"

In March 2008, at the request of the Traffic Safety Division (TSD) of the Indiana Criminal Justice Institute (ICJI), the National Highway Traffic Safety Administration (NHTSA) assembled a traffic records assessment team to review all components of the State's traffic records system. This team consisted of professionals with backgrounds and expertise in the following areas:

- traffic enforcement and adjudication
- professional engineering
- EMS/trauma data systems
- crash reporting/reconstruction
- licensing/vehicle registrations

The purpose of the assessment was to determine the ability of Indiana's traffic records system accomplishing the following:

- aide in the identification of the State's safety problems
- manage countermeasures implemented to address traffic safety issues
- evaluate the effectiveness of implemented countermeasures

A similar assessment was conducted in 2005 that offered a number of recommendations to improve the State's traffic records system. Management officials at the Indiana Criminal Justice Institute assigned the highest priority to correct the shortcomings noted in that 2005 report. They immediately got commitments from the various agencies with traffic safety missions, not only at the staff level, but also at the executive level, to correct the deficiencies noted. The state planned and initiated a set of programs to develop a traffic records system that provides the highway safety community with accurate, timely and quality crash and traffic records data.

The status of the state's traffic records system as it is today is a testimony to the team work that came from these commitments. The progress that has occurred in such a short period of time is truly remarkable. It is gratifying to witness firsthand how a state can build a well functioning traffic records system by adopting the concepts that are generally recognized as the prerequisite ingredients for such a system and that are mainstay recommendations in assessment reports. It demonstrates most pointedly the absolute necessity of team work as has been the hallmark of the Traffic Records Coordinating Committee (TRCC) and the leadership at ICJI that has kept an unwavering focus on the goals set forth following the 2005 assessment.

Teamwork has already borne fruit in the major improvements to the crash component. With continued teamwork other projects in progress are likely to experience similar success in improving the citation reporting and tracking capabilities, the refinement of location identifiers in a geo-spatially aware environment, the EMS/Trauma electronic data systems, and the court case management systems and their interface with driver history records,

The assessment teams key findings and recommendations for improvement are discussed in the following sections.

Crash Reporting System

The State's Vehicle Crash Reporting System (VCRS) was created and initially launched in 2003. The Indiana State Police are statutorily charged with the responsibility of maintaining a crash records database, with system operations being managed by contracted technology firm Holt, Sheets and Associates. Overall, the vehicle crash submission system is designed to receive, store and retrieve crash report data as needed. Initially, only a handful of law enforcement agencies submitted data electronically to the crash data repository using the PC-based data collection system promoted by ISP. However, by May 31, 2008, 92% of the State's law enforcement agencies were reporting using electronic submissions, contributing 98% of all crash reports being submitted on-line into the state crash data repository.

Traffic Records Coordinator

Following with the recommendations outlined in the traffic records assessment of 2005, the TSD of ICJI hired a Traffic Records Coordinator in February of 2006, to facilitate the improvement of the accuracy, timeliness, integration, and accessibility of the traffic records system. The Traffic Records Coordinator position is responsible for recruiting agencies to submit crash records electronically, monitoring electronic crash submission numbers and for training agencies to use the ARIES eVCRS program. The Coordinator also serves as the chair person of the Traffic Records Coordinating Committee (TRCC). Perhaps no action has had a more immediate and positive impact in the direction of traffic records in Indiana since 2005 than the high priority assigned to that recommendation and its adoption so soon after the report was released

Paper Reporting Improvements

By March of 2006 the eVCRS program was making significant improvements in reducing the number of errors and omissions on crash reports submitted on-line. However, the assessment committee was concerned about the quality of paper crash reports being submitted to the state crash repository. At issue was a 21 month backlog of paper crash reports that had not been entered into the crash data repository. With the backlog of reports caught up, it is now a standard operating procedure for paper reports to be entered into the database within 24 hours of being received. Making the crash repository's data day current in data availability for current submissions.

To address the topic of data quality for paper crash reports, the TSD arranged meetings with ISP, Holt, Sheets and Associates, and Purdue's Center for Roadway Safety (CRS)[1] to discuss and develop a method to reject paper reports. As well as a means of flagging and tracking these reports. In March of 2006, the TRCC made the decision to activate quality control edits that would reject paper crash reports that contained one or more critical errors. Based on the initial assessment after data edits were added, the statewide crash report rejection rate for paper reports was 38.9%.

[1] Formerly know as the Center for the Advancement of Transportation Safety

In order to continue improving data quality of paper reports, in April of 2006, the TRCC directed that all rejected reports with critical errors be returned to their submitting law enforcement agency for correction. Submitting agencies began receiving cover letters with each rejected report detailing the reason for the rejection. Not only did this enable agencies to correct and re-submit their crash reports, it also provided a means of feedback for TRCC regarding the data edits. Agencies indicated that the edits were too restrictive and did not allow for various realistic scenarios of crashes. These areas will be improved upon in the next release of ARIES in early 2009. Improvements to the program presently proposed will be to add sequence of events, ability to scan license and registration in the front end of the program, ability to indicate non-motorist as primary cause unit, allow multiple circumstances as a driver, print VIN number on report, and the addition of warnings to specific primary cause factors that should only be used as a secondary cause. The most important update will be the creation of an internet based crash report supplemental reporting system. This will allow an officer to supplement his/her crash report from any computer that is connected to the internet. This will improve accessibility for the officer in the field. A total of 12 enhancements are scheduled for implementation. The Crash Records Assessment Committee has approved the recommendations to the program to the TRCC in March of 2008. The TRCC approved the additions which will be incorporated in the FY2009 NHTSA 408 traffic records improvement grant for funding.

Electronic Reporting Improvements

The rejection of paper reports also created an incentive for agencies to submit their crash reports on-line using the ARIES crash reporting program, because ARIES will not allow officers to submit reports if there are any errors in the report. As the officer is writing the crash report, the program provides immediate feedback when a required field is left blank or invalid. Another contributing factor to the increase in electronic submissions was the availability of training seminars held at local agencies. As of December 2007, more than 35 agency trainings had been conducted, reaching over 350 officers. Additionally, the Traffic Records Coordinator reached out to agencies submitting paper reports to discuss the benefits of the ARIES crash reporting program.

Rejecting crash reports also enabled the TSD to distribute an electronic crash reporting survey to law enforcement agencies throughout the state to determine ways to assist them in enrolling in the ARIES program. An evaluation of the survey responses led to the realization that many agencies needed laptop computers in order to be able to use the program. In the summer of 2006, ICJI was able to reach an agreement with ISP to distribute to local law enforcement agencies approximately 600 re-conditioned laptops. Distribution of all laptops will be completed mid- 2008.

In addition to reaching out to large agencies submitting paper crash reports, the Traffic Records Coordinator was also able to identify agencies with the largest number of rejected reports. A total of ten law enforcement agencies were responsible for over 50% of all rejected reports. Reaching out and working with these agencies, the Traffic Records Coordinator was able to recruit several of those agencies to commit to using the electronic crash reporting system. The remaining agencies that did not commit to electronic submissions were contacted regarding their most critical errors, recommending that they conduct training within their agency to remedy the issue.

Confident that the number of rejected reports would continue to decrease, the TRCC recommended that the rejection of reports be discontinued in October 2006. As previously reported, the percentage of rejected paper reports in April of 2006 was 38.9%. As of September 2007, the paper report error rate is at 3% of the total reports submitted.

Note: Paper reports started being rejected as of April 2006. Only reports in accepted status are represented

Comparison of Electronic Submissions vs. Rejected Reports

Year	# Paper	# eVCRS	Total	Rejected	% Paper	Error Rate %
2003	212,784	789	213,573	79,952	38%	37%
2004	171,009	38,291	209,300	64,940	38%	31%
2005	140,525	68,573	209,098	55,285	39%	26%
2006	81,106	113,600	194,706	26,753	33%	14%
2007	18,110	186,341	204,424	5,262	29%	**3%**

Note: the data for 2007 is as of 12/31/2007

Progression of Electronic Crash Report Submission

	Jan 06	July 06	Jan 07	July 07	Dec 07	May 08
% of agencies eVCRS	61.1%	77.1%	82.8%	84.6%	89.5%	92.3%
No. of Agencies	305	355	425	435	455	470
YTD Submissions	Jan 06	July 06	Jan 07	July 07	Dec 07	May 08
Total Submitted	15548	93188	18004	98679	204,424	84193
No. Evcrs Submissions	6684	45335	14625	85534	186,314	82217
% Electronic Submissions	42.9%	48.6%	81.2%	86.6%	91.3%	97.6%

Privatization of Traffic Records

In 2006, the State of Indiana passed legislation that allowed for the privatization of traffic records. It was determined that a private company would be hired to manage the crash records system and repository, under the guidance of the Indiana State Police. In October 2006, Holt, Sheets, and Associates were awarded the contract. As payment, Holt, Sheets, and Associates were granted the right to sell crash reports and data extracts to interested parties, including insurance companies, attorneys, as well as the general public.[2] Holt, Sheets and Associates deployed the www.buycrash.com website in January 2007. This website provides access crash reports nationally for a fee. An individual can purchase a crash report submitted by a law enforcement agency on-line, even if out of state for a charge of $12.00. This report is available

[2] www.buycrash.com was established in February 2007 for the purpose of sale and distribution of this information and is solely associated with Holt, Sheets, and Associates.

on the website normally within 5 days or less. The submitting agency is eligible to receive a reimbursement of $8.00 per report sold. A local agency on average sells there reports in-house for $5.00. This is a 60% increase in revenue for the agency through www.buycrash.com .

- State of Indiana had previously requested federal funds on an annual basis to ensure the continued operation of the crash records operation. Due to the privatization of crash records, the operation is now self-sustaining and no longer requires any federal funds for its continued maintenance and support.
- The crash records outsource eliminated an annual cost to the State Police of over $1,000,000. ISP was able to completely eliminate staffing, consulting and system maintenance that led to this cost. The cost savings allowed ISP to hire additional troopers in 2007, and add civilian staff in other areas where they were needed.
- Profit gives the vendor an incentive to work diligently with agencies to ensure reports are complete, accurate, and submitted in a timely fashion to the central repository. Additionally, this incentive motivates the vendor to ensure a system that is online 24 hours a day, 7 days a week, and runs with optimum performance. This greatly benefits INDOT, BMV, and other users of the aggregate traffic safety data. Lastly, the profit incentive also drives the vendor to administer a streamlined, efficient, and cost-effective crash records operation.
- All Indiana agencies, including State Police, are provided the ARIES software, training and configuration assistance, regular upgrades, and help desk support for FREE. This is a savings of thousands of dollars per year, per agency, for over 500 agencies statewide.
- Additional cost savings realized by both state and local police agencies, in that the foot traffic into their records divisions has been reduced. Thus lowering the cost of their operations. This is a very significant savings to larger agencies, such as ISP and Fort Wayne PD.
- Buyers of local agency reports which constitute 93% of the states crash reports, have the OPTION to purchase the report online- this is a convenience, especially if they would have to travel a significant distance to the investigating agency. The buyer may still elect to purchase it directly from the agency if they so choose.
- Improvements in data quality (3% error rate, down from 40%) due to standardization of input and immediate feedback to the officer via ARIES, means complete, accurate, and timely data are available to NHTSA, FMCSA, FHA, INDOT, ICJI, ISP and other traffic safety professionals. Not only does better information lead to better and more informed decision-making, but makes Indiana better qualified to receive increased federal funding, and make better programmatic decisions based on improved and timely data.

Advancement of eVCRS

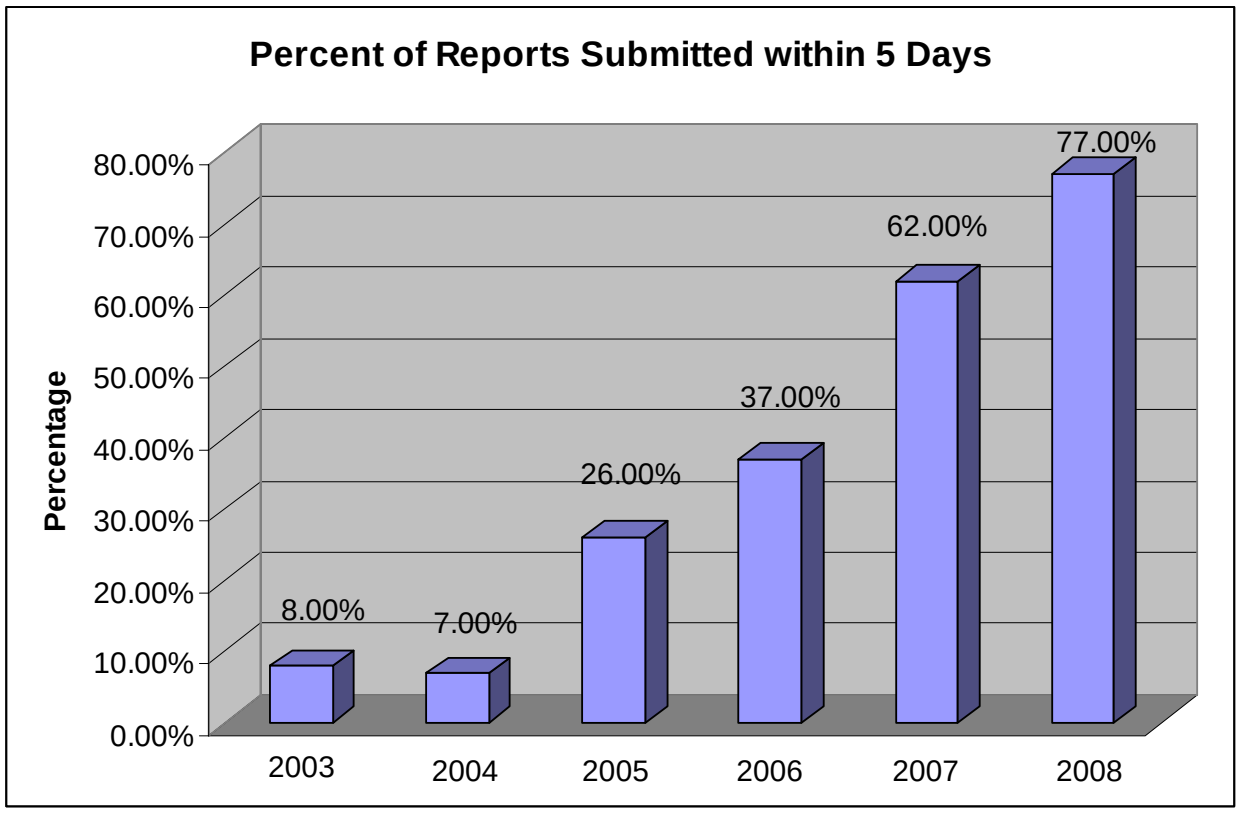
In April 2007, Holt, Sheets, and Associates introduced the second version of eVCRS, called the Automated Reporting Information Exchange System (ARIES). One such enhancement in this updated version provides bar code scanning capability of driver's license and vehicle registration. This feature enables information from these documents to pre-populate into the

appropriate field in the crash report when scanned. This not only saves the officer time, it also enhances the accuracy of the information. ARIES also includes a Suspicious Activity Reporting System (SARS) program that is being developed through the Indiana Department of Homeland Security. These additions to the program have encouraged additional agencies to come on board.

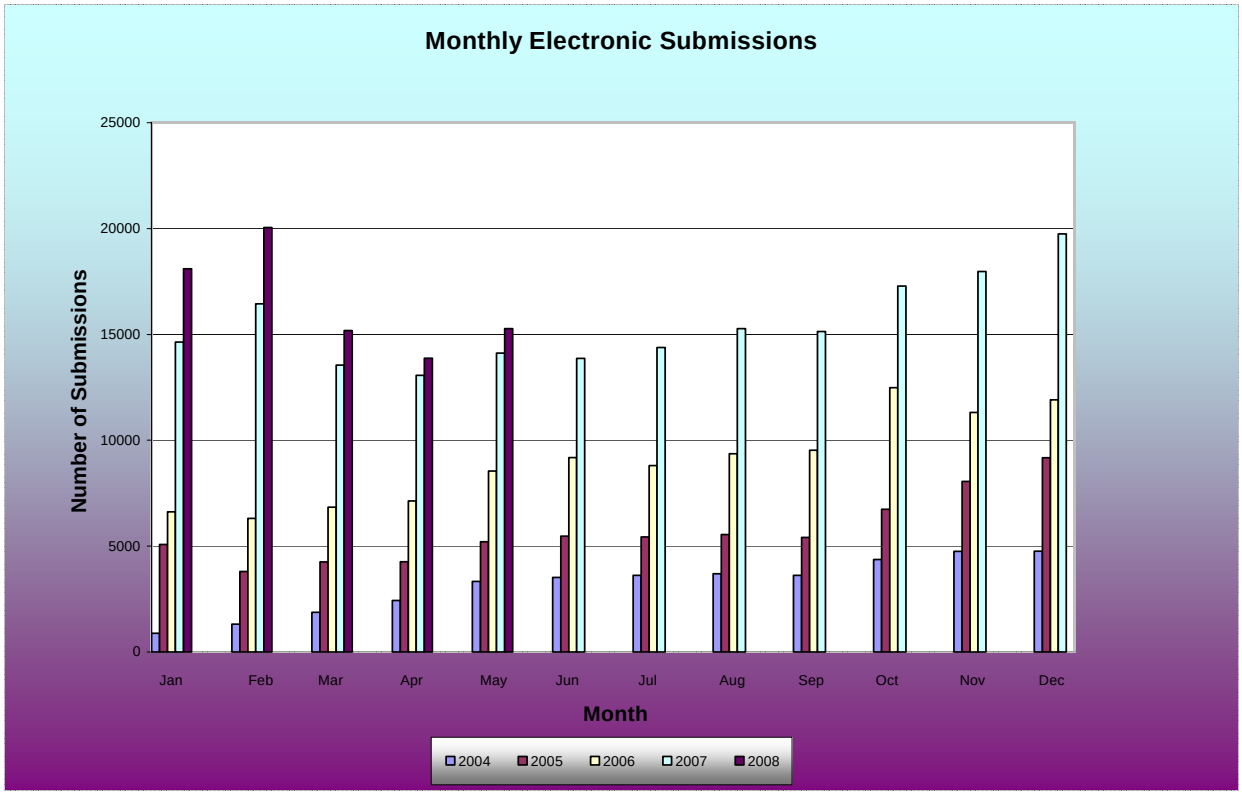
Timeliness

Confident that high electronic submission rates would continue, members of the TRCC began to focus on timeliness in receiving crash reports. Prior to the push for electronic submissions, it took an average of 19 days for a crash report to be available in the data repository, despite Indiana code outlining that law enforcement agencies submit their crash reports to the repository within 24 hours of completion.

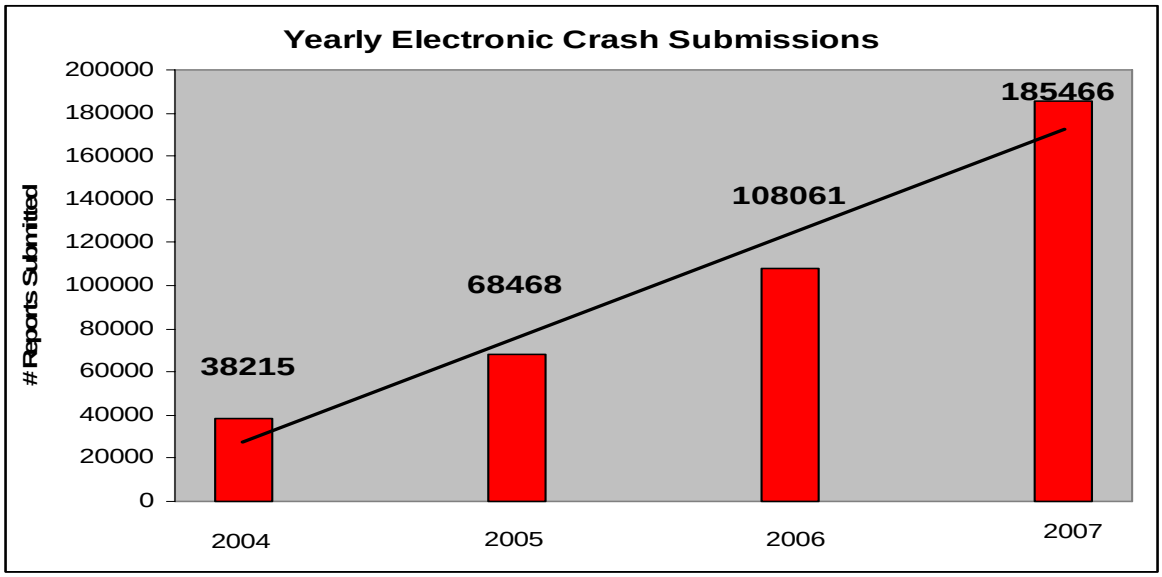
In April 2007, the TRCC agreed upon the goal of agencies submitting 90% of their crash reports within five days of the event. Original findings indicated that only 47% were submitted to the data repository within 5 days of the crash. Following the implementation of the goal, by October 29, 2007, the percentage of crash reports submitted within 5 days of the crash reached 59%. The timeliness of submissions in the last 30 days as of May 31, 2008 has reached 77%. In order to continue an increase in the number of submissions that meet the timeliness goals, the seven Law Enforcement Liaisons (LELs) will continue to monitor activity in their respective districts using this report.[3]

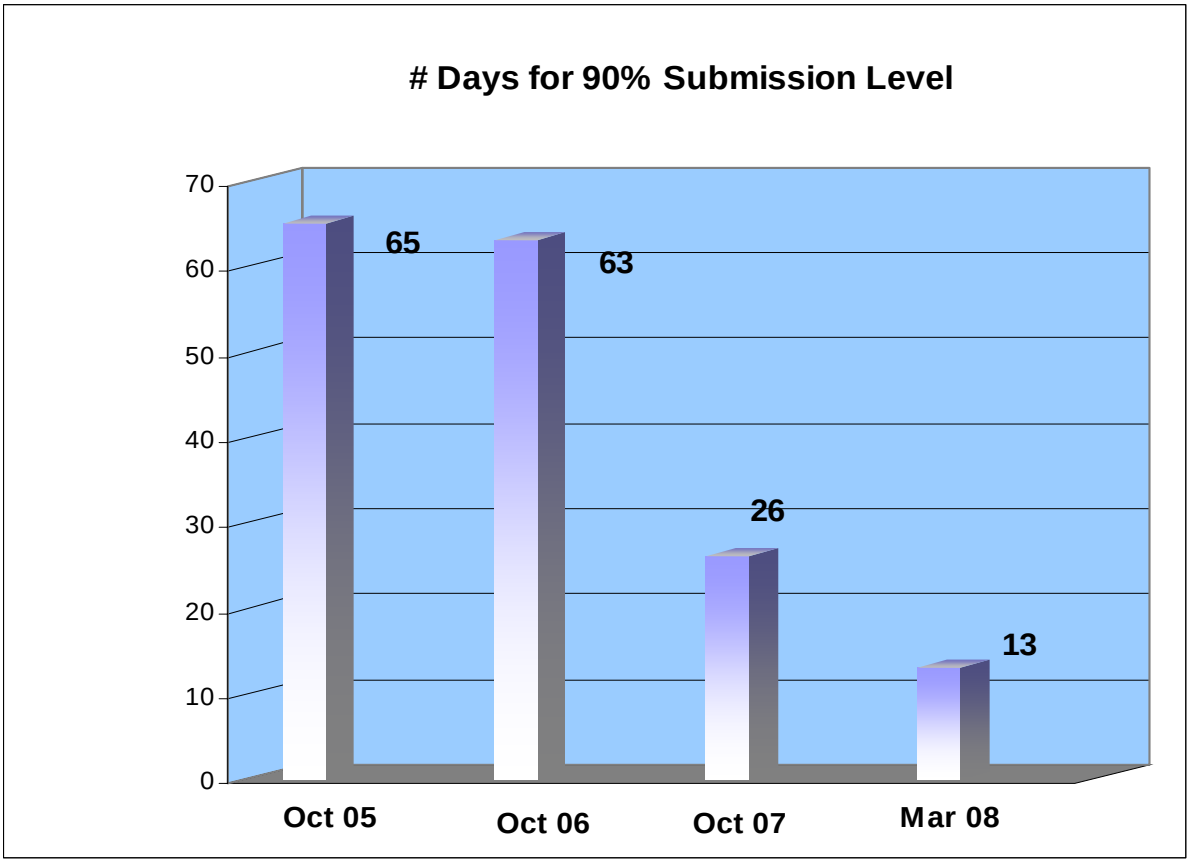


[1] A link to this submission report is available on the www.ARIES.in.gov website.



The graph above represents the number of electronic crash reports submitted on a monthly basis from January of 2004 to May of 2008. During the month of April 2008, 98.5% of the reports were submitted electronically. The graph below shows the steady increase of electronic crash reports submissions on an annual basis for comparison.





In finalizing the effect of improved timeliness, having the ability to search the ARIES crash data base for crash statistics has improved immensely. Timely information on high crash locations for engineering and enforcement has given the all stakeholders the tools to help save lives, reduce injuries and property damage. The graph above shows the improvement in receiving crash data. The numbers represent the number of days for 90% of crash reports in a 30 day period to be received in the crash data repository statewide. From October of 2005 to present, this represents an 80% improvement in the amount of time.

Summary/Conclusion

Improvements in the original ARIES/eVCRS system have created a significant increase in electronic submissions as well as a significant decrease in the number of reports rejected, both paper and electronic, due to critical errors. The standardization of input and the immediate feedback featured in ARIES has contributed to more complete, accurate, and timely data being available to all traffic safety partners.[4] The progress made in crash records over the past 24 months can best be described as a team effort. Without the coordinated cooperation of the all the stakeholders involved in traffic safety initiatives, the progress made to date could not have been possible.

The Traffic Records Coordinating Committee is grateful to all law enforcement agencies in the state of Indiana participating in our efforts to improve traffic records.

[4] Traffic safety partners in Indiana include, but are not limited to ICJI, Indiana Department of Transportation (INDOT), NHTSA, Federal Highway Administration (FHA), Federal Motor Carrier Safety Administration, ISP

In providing a closing excerpt from the 2008 Traffic Records Assessment for the final comment:

The State of Indiana has leaped ahead of the pack in terms of its ability to collect crash data and make the data available to users.

For further information pertaining to the advancements in traffic records, please contact one of the individuals listed below.

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Traffic Records
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NHTSA Traffic Records Assessment March 2008

EVCRS Deployed to Agencies 09/2003 270 agencies using program.

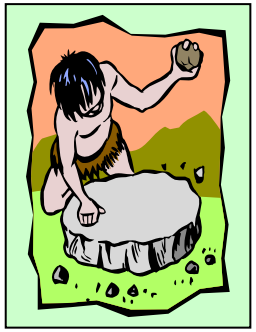
NHTSA Traffic Record Assessment October 2005

Data Edits Turned on April 2006

ARIES Crash Reporting Version 3 Deployed April 1, 2007 Bar Code Reading Capable

October 2007 Submission Rate 96% ARIES 74% Timely

2003 | **2004** | **2005** | **2006** | **2007** | **2008**



Previous Crash Records Reporting Tools

Data Nexus Traffic Records audit completed November 2004

Hired Traffic Records Coordinator Feb. 2006

Aggressive campaign to Enroll Agencies into eVCRS 60.3% Submissions

BMV starts putting bar codes on vehicle registration 3rd Qtr.

HSA Deploys Buycrash.com February 2007

Active campaign to improve Timeliness Goal of 90% within 5 days April 2007

Present Crash Records Submission Tool

32% Evcrs Submission Rate January 1, 2006

58% Evcrs Submission Rate January 1, 2007

87% ARIES Submission Rate July 1, 2007

98% ARIES Submission Rate Year to Date May 2008